

**Trade and Industrial Education**  
**Course: *WELDING APPLICATIONS***  
**Course Code # 5787**  
**2 Credits**

**School Year** \_\_\_\_\_

**Term:** \_\_\_\_ **Fall** \_\_\_\_ **Spring**

Student:	Grade:
Teacher:	School:
Number of Competencies in Course: <b>28</b>	
Number of Competencies Mastered:	
Percent of Competencies Mastered:	

**STANDARD 1.0: Students will demonstrate leadership, citizenship, and teamwork skills required for success in the school, community, and workplace.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
1.1	Exhibit positive leadership skills.			
1.2	Participate in SkillsUSA-VICA as an integral part of classroom instruction.			
1.3	Assess situations and apply problem-solving and decision-making skills to particular client relations in the community, and workplace.			
1.4	Demonstrate the ability to work cooperatively with others in a professional setting.			

**STANDARD 2.0: Students will interpret, layout, and fabricate in conformance to construction and fabrication drawings.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
2.1	Correctly interpret dimensions and locations of components in construction and fabrication drawings.			
2.2	Correctly scale dimensions in construction and fabrication drawings.			
2.3	Correctly interpret orthographic views shown in construction and fabrication drawings.			
2.4	Recognize and correctly interpret lines and symbols commonly used in construction and fabrication drawings.			
2.5	Read and demonstrate understanding of the welding terms and definitions from ANSI/AWS A3.0, <i>Standard Welding Terms and Definition</i> .			

**STANDARD 3.0: Students will perform air carbon arc gouging operations on plain carbon steel.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
3.1	Perform gouging operations using the air carbon arc cutting process on plain carbon steel.			

**STANDARD 4.0: Students will make single- and multi-pass fillet and groove welds on plain carbon steel in all positions using a Flux-Cored Arc Welding (FCAW) process.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
4.1	Make single- and multiple-pass fillet and groove welds on plain carbon steel using a FCAW process in all feasible positions.			
4.2	Evaluate the distinctive features of FCAW.			
4.3	Conduct destructive tests such as guided bend tests and impact tests on samples of FCAW weldments.			
4.4	Conduct non-destructive tests such as magnetic particle or dye penetrant on samples of FCAW weldments.			

**STANDARD 5.0: Students will make fillet and groove welds on plain carbon steel in all positions using short-circuit, spray transfer, or pulsed-arc Gas Metal Arc Welding (GMAW) process.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
5.1	Make fillet and groove welds on plain carbon steel using short-circuit, spray transfer, or pulsed-arc GMAW process in all feasible positions.			
5.2	Comprehend the distinctive features of GMAW.			
5.3	Conduct destructive tests such as guided bend tests and impact tests on samples of GMAW weldments.			
5.4	Conduct non-destructive tests such as magnetic particle or dye penetrant on samples of GMAW weldments.			

**STANDARD 6.0: Students will perform plasma arc cutting operations on carbon steel, stainless steel, and aluminum.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
6.1	Perform manual straight, shaped, and beveled cutting operations on carbon steel, stainless steel, and aluminum using a plasma arc cutting process.			
6.2	Perform machine-guided straight, shaped (where possible), and beveled cutting operations on plain carbon steel, stainless steel, and aluminum using a plasma arc cutting process.			
6.3	Comprehend the methods of heat application and metal removal used in a plasma arc cutting process			

**STANDARD 7.0: Students will make fillet and groove welds on carbon steel, stainless steel, and aluminum in all positions using a Gas Tungsten Arc Welding (GTAW) process.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
7.1.	Make fillet and groove welds on carbon steel, stainless steel, and aluminum using a GTAW process in all feasible positions.			
7.2	Understand the distinctive features of GTAW.			
7.3	Conduct destructive tests such as guided bend tests and impact tests on samples of GTAW weldments.			
7.4	Conduct non-destructive tests such as magnetic particle or dye penetrant on samples of GTAW weldments.			

**Students will perform safety examinations and maintain safety records.**

Learning Expectations		Check the appropriate Mastery or Non-Mastery column	Mastery	Non-Mastery
Safety1	Pass with 100 % accuracy a written examination relating to safety issues.			
Safety2	Pass with 100% accuracy a performance examination relating to safety.			
Safety3	Maintain a portfolio record of written safety examinations and equipment examinations for which the student has passed an operational checkout by the instructor.			

Additional Comments \_\_\_\_\_